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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,651	12/22/2003	Mototsugu Okushima	NEM-05201	7582

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PATENT GROUP  
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BOSTON, MA 02109

EXAMINER

FENTY, JESSE A

ART UNIT PAPER NUMBER

2815

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

5/2

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/743,651	OKUSHIMA	
	Examiner	Art Unit	
	Jesse A. Fenty	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-31 is/are allowed.
- 6) ☒ Claim(s) 13, 16, 17, 20, 22, 25 is/are rejected.
- 7) ☒ Claim(s) 14, 15, 18, 19, 21, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Oh (U.S. Patent No. 5,986,863).

In re claim 13, Oh (esp. Figs. 2 and 3) discloses a semiconductor device, comprising:

a semiconductor substrate (10) of a first conduction type;

first (above NBL 12) and second (above NBL 14) wells of a second conduction type opposite to said first conduction type, each of said first and second wells including a first diffusion region (22, 32) of said first conduction type and a second diffusion region (24, 34) of said second conduction type, said second diffusion region (24) in said first well being connected to said first diffusion region (32) in said second well; and

a third well (40) of said first conduction type located between said first well and said second well.

The limitation, “wherein said first, second and third wells cooperate ... action” is a recitation of the intended use of the claimed device. Terms that simply set forth the intended use, a property inherent in or a function, do not differentiate the claimed composition of these elements from those known to prior art.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 16, 17, 20, 22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oh as applied to claim 13 above, and further in view of Williams (U.S. Patent No. 6,060,752).

In re claim 16, Oh discloses the device of claim 13, but does expressly disclose the third well including a diffusion region of the first conductivity type. Williams (Fig. 9C) discloses a similar device to that of Oh in which a sinker region (956) further includes a diffusion region of the same conductivity type. It would have been obvious for one skilled in the art at the time of the invention to nest a diffusion region of the same conductivity type creating a double diffusion region for the device of Oh as disclosed by Williams for the purpose, for example, of inhibiting parasitic capacitance in the device (Williams; column 7, lines 33-37).

In re claim 17, Oh in view of Williams discloses the device of claim 16, wherein said diffusion region in said third well is exposed in a surface of said semiconductor substrate.

In re claim 20, Oh (esp. Figs. 2 and 3) discloses a semiconductor device, comprising:  
a semiconductor substrate (10) of a first conduction type;  
first (above NBL 12) and second (above NBL 14) wells of a second conduction type  
opposite to said first conduction type, each of said first and second wells including a first

Art Unit: 2815

diffusion region (22, 32) of said first conduction type and a second diffusion region (24, 34) of said second conduction type, said second diffusion region (24) in said first well being connected to said first diffusion region (32) in said second well; and

a third well (40) of said first conduction type located between said first well and said second well.

Oh does expressly disclose the third well including a diffusion region of the first conductivity type. Williams (Fig. 9C) discloses a similar device to that of Oh in which a sinker region (956) further includes a diffusion region of the same conductivity type. It would have been obvious for one skilled in the art at the time of the invention to nest a diffusion region of the same conductivity type creating a double diffusion region for the device of Oh as disclosed by Williams for the purpose, for example, of inhibiting parasitic capacitance in the device (Williams; column 7, lines 33-37).

In re claim 22, Oh in view of Williams discloses the device of claim 20. The limitation, “wherein said first, second and third wells cooperate ... action” is a recitation of the intended use of the claimed device. Terms that simply set forth the intended use, a property inherent in or a function, do not differentiate the claimed composition of these elements from those known to prior art.

In re claim 25, Oh in view of Williams discloses the device of claim 20, wherein said first and second wells are separated by a third well by shallow trench isolation field oxide regions (901, 903, 905, ...)

*Allowable Subject Matter*

5. Claims 14, 15, 18, 19, 21, 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 26-31 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter:

The semiconductor device including at least the third well being divided into a plurality of portions, each of said portions being apart from each other is neither anticipated nor obvious over the prior art of record.

*Response to Arguments*

8. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

9. Applicant's amendment, the cancellation of claims 1-12 and adding of new claims 13-31, necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

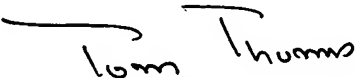
Art Unit: 2815

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 571-272-1729. The examiner can normally be reached on 5/4-9 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
TOM THOMAS  
SUPERVISORY PATENT EXAMINER

Jesse A. Fenty  
Examiner  
Art Unit 2815